THEATER AIR DEFENSE
TAD
PROGRAM EXECUTIVE OFFICE

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TAMD TECHNOLOGY FOCUS

PEO (TAD), PEO SC/AP INDUSTRY DAY

TAMD AGENDA

- Overview of TAMD scope / associated programs / responsibilities
- Threat today & tomorrow
- Top technology interests & high risk interests
- TAMD ATD perspective & future

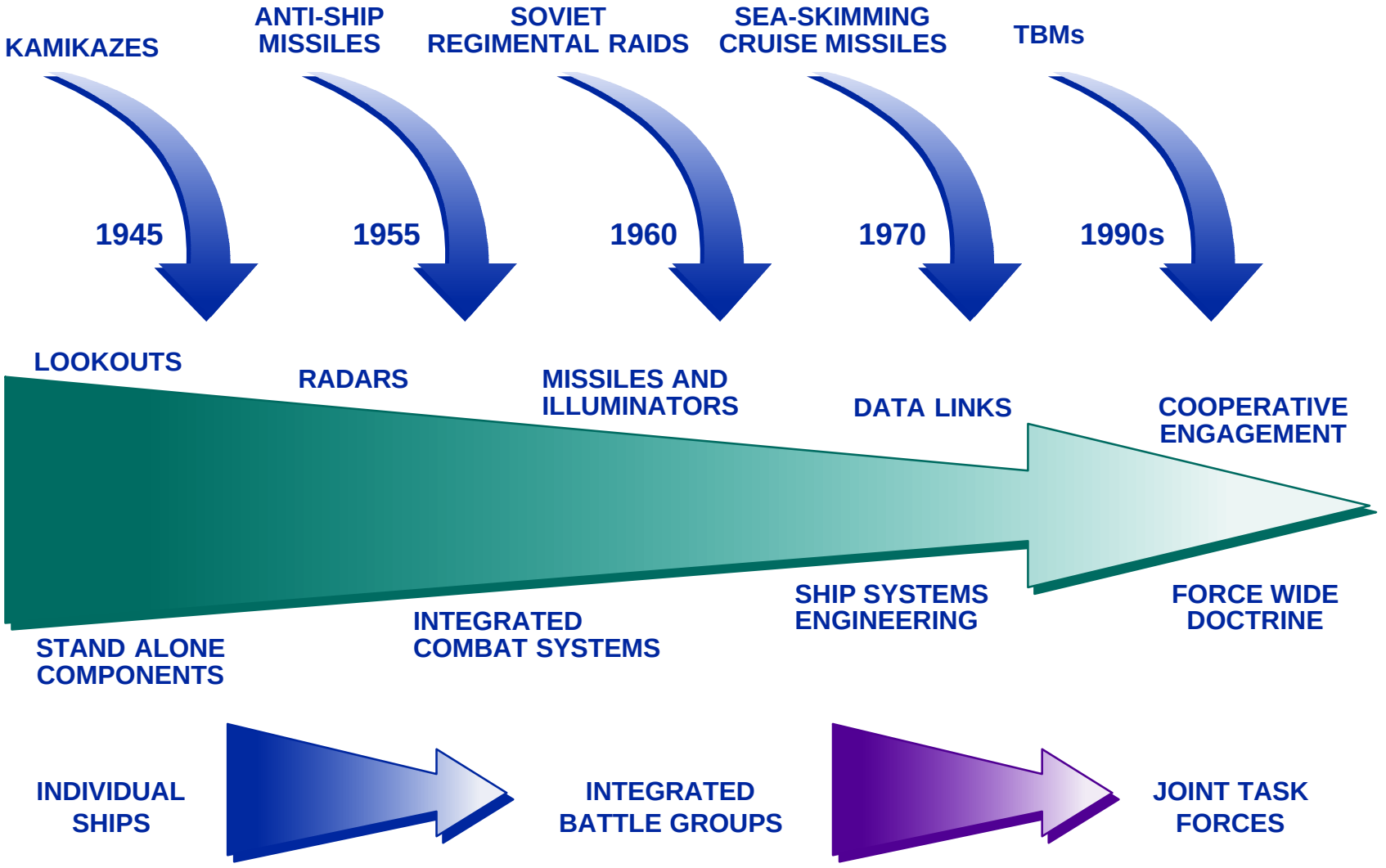
TAMD OVERVIEW

- TAMD scope & associated programs
  - Navy Area TBMD
  - Navy Theater Wide TBMD
  - Overland Cruise Missile Defense
  - Land Attack Strike
- Functional responsibilities
  - Maintain current AEGIS AAW capability and deploy the Navy Area TBMD capability
  - Deploy time-phased evolutionary NTW TBMD system which paces an evolving threat
  - Develop and deploy defenses for Land Attack Cruise Missiles
  - Provide an accurate effective capability to the fleet to strike inland high value targets
  - Develop Advanced Technologies which will facilitate a robust capability to the warfighter

NAVY THEATER AIR DEFENSE: EVOLUTION BASED ON EXPERIENCE

THEATER AIR DEFENSE TAD PROGRAM EXECUTIVE OFFICE

THEATER AIR DEFENSE



THE THREAT IS REAL

- Iran and Iraq "War of the Cities"
  - Both Sides Employ SCUDs and WMD
- Yemeni's Fire Numerous SCUDs in Civil War
- Desert Storm SCUD Use
- China Attempts to Intimidate Taiwan with M-9
- Test, Development, and Proliferation on-going
  - Pakistan
  - India
  - North Korea
  - China
  - Iraq
  - Iran
  - Others

SCUD Missile Firings

Chinese M-9

STANDARD MISSILE FAMILY HISTORY

THEATER AIR DEFENSE
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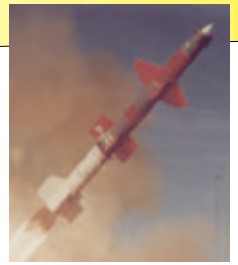
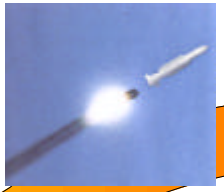
THEATER AIR DEFENSE

TALOS



AEGIS ER



SM-2 BLK IV

SM-2 BLK 1

SM-2 BLK II

SM-2 BLK III / IIIA

SM-2 BLK IIIB

TERRIER BW-0

TERRIER BT-3

TERRIER HT-3

SM-1 BLK IV

IMPROVED TARTAR

TARTAR

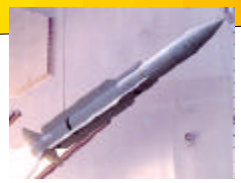
SM-1 BLK V

SM-1 BLK VI

SM-1 BLK VIA

SM-1 BLK VIB

SM-1 BLK VIB MODS



PRODUCTION:	SM-1 BLK VIB Mods
	SM-2 BLK IIIA
LRIP:	SM-2 BLK IIIB
	SM-2 BLK IV

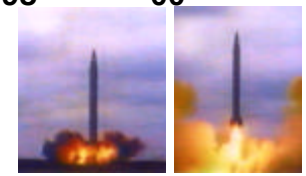
50 55 60 65 70 75 80 85 90 95 00

MIGs

STYX

MULTIPLE CRUISE MISSILES

FASTER, HIGHER, LOWER, SMALLER



BEAR BOMBERS

SEA SKIMMERS

TBMs

TECHNOLOGY & HIGH RISK INTERESTS

- Navy Area TBMD
  - Advanced high performance missile propulsion & control systems
  - Lightweight, hardened, optical seeker windows
  - Advanced cooling systems
  - Lightweight, high power, miniaturized batteries
  - Advanced multi-spectral sensors
  - Improved discrimination techniques
  - Improved signal processing
  - Ballistic target countermeasure survivability
  - IR fusing discrimination / selectivity
  - Lethality enhancements

TECHNOLOGY & HIGH RISK INTERESTS (con't)

- NTW TBMD
  - Advanced RF sensors
  - Advanced multi-spectral sensors
  - Lightweight long duration batteries
  - Advanced propulsion (axial, maneuvering, etc.)
  - Sensor fusion
  - Advanced BMC^{4}I systems
  - Lightweight structural materials
  - High performance, lightweight guidance systems and implementations
  - Balanced RF / IR discrimination techniques
  - Improved signal processing
  - Hit to kill aimpoint selection

TECHNOLOGY & HIGH RISK INTERESTS (con't)

- Overland CMD
  - Multi-Function Radar (MFR)
  - Advanced propulsion (range, maneuvering, axial, etc.)
  - "Off-board" information
  - Sensor integration
  - Missile improvements (weight, power, thrust, etc.)
- Land Attack Strike
  - Low observable missile technologies (altitude, speed, etc.)
  - Improved Probability of Kill (P_K) (Low weight/hi explosive, PENAIDs, fusing, shaped charges, etc.)
  - New guidance algorithms for missile accuracy (in-flight uplink, GPS, image/IR/RF, etc.)
- Vertical Launching System
  - Signal improvements (Hatch RCS, Accoustic baffling, etc.)
  - Affordable corrosion control
  - Plenum design improvements
  - Missile kick-booster technology

ATD PERSPECTIVES

- Acquisition system requirements
- Top technology concerns / challenges
- Relatively high risk concepts
- Leading edge of IR&D

TAMD FUTURE

- Naval Ballistic Missile Defense Systems
  - Navy Area
  - NTW
  - Overland CMD
  - Land Attack Targets
  - Naval future strategies
- Development of technology that is still “over-the-horizon”
- ATDs are the vehicle for new and advanced technology
- Successful ATDs may transition from IR&D to actual Program use